

Delta Operations for Salmonids and Sturgeon (DOSS) Group
Conference call: 3/20/12 at 9:00 a.m.

Objective: Provide advice to the Water Operations Management Team (WOMT) and National Marine Fisheries Service (NMFS) on measures to reduce adverse effects from Delta operations of the Central Valley Project and the State Water Project on salmonids and green sturgeon. DOSS will coordinate the work of other technical teams. DOSS notes and advice can be found at: <http://www.swr.noaa.gov/ocap/doss.htm>

DWR: Mike Ford, Andy Chu, James Gleim, Edmund Yu, Kevin Reece, Angela Llaban

FWS: Leigh Bartoo, Roger Guinea

NMFS: Barbara Rocco, Bruce Oppenheim, Barb Byrne, Jeff Stuart

Reclamation: Josh Israel, Russ Yaworsky

DFG: Bob Fujimura, Robert Vincik, Joe Johnson

EPA, SWRCB, USGS: not present

Agenda

1. Action items
2. Fish monitoring
3. Current operations
4. Review OMR technical memo

Action Item [1/3/12]: Review the DOSS section of the annual review report and provide responses regarding implementation of recommendations. Carry. See discussions below.

3/20/12: Oppenheim contacted Donna Garcia (Reclamation) regarding the various reports; the agencies are issuing separate agency responses to the Delta Science Program; the only response drafted so far is by the FWS on delta smelt. Oppenheim suggested a meeting be set up this week, possibly tomorrow, with Israel and Llaban. He will send out a meeting notice.

Action Item [1/17/12]: DWR, Reclamation, NMFS, and DFG will meet to discuss how best to include CWT information in available salvage databases, both going forward and perhaps retrospectively. Bob Fujimura, DFG, agreed to lead this effort and provide a list of what needs to be revised. Carry. See update below.

3/20/12: No further update. Fujimura is working on putting together a meeting to have different fish agencies reconcile the salvage database. As of 3/13/12, Fujimura is still working on developing a meeting date and agenda. No further update on 3/20/12

Action Item: Jeff Stuart (NMFS) will check on whether any green sturgeon have been caught at RBDD. See discussion below. Delete; will check back with Poytress in 2 weeks to see whether any have come down by then.

3/20/12: Stuart contacted Bill Poytress (FWS) and he reported that no green sturgeon have been recovered in sampling efforts in up-river locations since last September (2011). There have been no major flow events since last spring, and the juvenile sturgeon may be holding up-river longer than has been seen in previous years. Bill expects to have his report for 2011 completed very soon. Record numbers of green sturgeon larvae and juveniles were sampled last year. Larvae

and juveniles will typically move within a week of hatching beginning the first week in April. None has been recovered downstream since September 2011; they are probably holding because of low flows. Juvenile sturgeon are expected to begin moving toward the Delta in April/May; however, there are no available data on the movement of juvenile sturgeon.

Fish Monitoring: The following table presents fish monitoring data. Unless otherwise noted, reported sizes are fork length. No data were received before the conference call from Speegle at FWS. See: <http://www.water.ca.gov/swp/operationscontrol/calfed/calfedmonitoring.cfm>.

Location	Chippis Is. Midwater Trawl	Sacramento Kodiak Trawl	Mossdale Kodiak Trawl	Beach Seines	Knights Landing RST	Tisdale Weir RST
Sample Date					3/12–3/18	3/12–3/19
Total Catch					419	1,168
FR					375	1,126
WR					1	1
SR					41	39
LFR						
Ad-Clipped Chinook						1
DS						
Splittail						
Longfin						
SH (ad-clip)					1	1
SH (wild)					1	
W. Temp. (avg. °F)					55.0	52.0
Flows (avg. cfs)					10,940	12,889
Turbidity (avg. NTU)					22.9	27.6
WR/LFR Avg. CPUE					0.004	0.005
FR/SR Avg. CPUE					1.69	7.27

Key: FR = Fall run; LFR = Late-fall run; SR = Spring run; WR = Winter run; SH = Steelhead; DS = Delta smelt; LFS = Longfin smelt; SPTL = Splittail, CPUE = catch per unit of effort, ACT = acoustical tag

Sacramento River flows came up quite a bit from the last storms over the weekend. Sampling at Tisdale and Knights Landing remained continuous even with high flows. There has not been as much debris seen as in previous years.

Fish Salvage Data (3/12–3/18): Reports are also posted at <ftp://ftp.delta.dfg.ca.gov/salvage>: and you can locate the table under folder “DOSS salvage tables” (you can also try <http://www.dfg.ca.gov/delta/apps/salvage/Default.aspx>) and click on “salvage FTP site”.

Chinook salmon¹: Winter-run-sized ad-clipped Chinook salmon were salvaged at the CVP (weekly expanded salvage = 7), but not at the SWP. Winter-run-sized non-clipped Chinook salmon were salvaged at the CVP (weekly expanded salvage = 125) and SWP (weekly expanded salvage = 3). Spring-run-sized non-clipped Chinook salmon were salvaged at the CVP (weekly expanded salvage = 16) and SWP (weekly expanded salvage = 1). The water-year (10/1/2011 to present) expanded salvage totals of all races of Chinook salmon at the CVP are 208 ad-clipped (loss = 159) and 269 non-clipped (loss = 220). The water-year salvage totals of all races of Chinook salmon at the SWP are 197 ad-clipped (loss = 876) and 245 non-clipped (loss = 1,066).

Steelhead: Ad-clipped steelhead were salvaged at the CVP (weekly expanded salvage = 71) and SWP (weekly expanded salvage = 8). Non-clipped steelhead were salvaged at the CVP (weekly expanded salvage = 8), but not at the SWP. The water-year salvage totals of steelhead at the CVP are 186 ad-clipped and 22 non-clipped. The water-year salvage totals of steelhead at the SWP are 83 ad-clipped and 16 non-clipped.

One wild steelhead salvaged at the CVP had an orange dorsal tag (dyed). Israel mentioned that the U.S. Army Corps of Engineers has some tagged fish in the system right now but he didn't know whether they were tagging them with dye. It might be because of some kind of efficiency monitoring going on in the San Joaquin River or Stanislaus River tributaries. He will try to find out whether someone is tagging fish on the Stanislaus River. The agencies are not usually notified of these tagging studies; the impression is this kind of tagging is done to monitor trap efficiencies. Israel will follow up with the Cramer Fish Science people, who have traps on the Stanislaus, but he didn't know who works on the Merced and Tuolumne Rivers. NMFS could contact the people who get the monitoring permits; but they are required to report information on the website only once/year. Because we're entering into the OMR-intensive period and are looking at acoustically tagged steelhead and those coming out of the San Joaquin River; it would be beneficial to know what's coming out from there.

Action Item: Report next week on traps in the Stanislaus, Merced, and Tulomune Rivers (Israel and Oppenheim); NMFS will check with those who have monitoring permits and report.

Delta smelt: Delta smelt were salvaged at the CVP (weekly expanded salvage = 4) and SWP (weekly expanded salvage = 4). The water-year salvage total of delta smelt at the CVP is 102. The water-year salvage total of delta smelt at the SWP is 92. No larval delta smelt <20 mm FL were reported in larval fish samples through 3/18/2012 at the CVP and through 0900 hours on 3/15/2012 at the SWP.

¹ Race of clipped salmon is determined solely by length of the fish at date criteria on date of salvage and should be treated as preliminary and may be subject to change when Reclamation and FWS reports the tag information on race.

Longfin smelt: Longfin smelt were salvaged at the CVP (weekly expanded salvage = 20) and SWP (weekly expanded salvage = 134). The water-year salvage total of longfin smelt at the CVP is 76. The water-year salvage total of longfin smelt at the SWP is 194. Larval longfin smelt were found in larval fish samples at the CVP from 3/12/2012 to 3/18/2012 and at the SWP from 1500 hours on 3/8/2012 to 0900 hours on 3/15/2012.

Splittail: Splittail were salvaged at the CVP (weekly expanded salvage = 8) and SWP (weekly expanded salvage = 12). The water-year salvage total of splittail at the CVP is 243. The water-year salvage total of splittail at the SWP is 3,830.

White sturgeon: No white sturgeon were salvaged at either facility. The water-year salvage total of white sturgeon at the CVP is 64. No white sturgeon have been salvaged at the SWP this water year.

Green sturgeon: No green sturgeon have been salvaged at either facility this water year.

Below are two graphs prepared by Bob Fujimura for older juvenile salmon loss densities at both facilities and daily salvage compared with exports at both facilities.

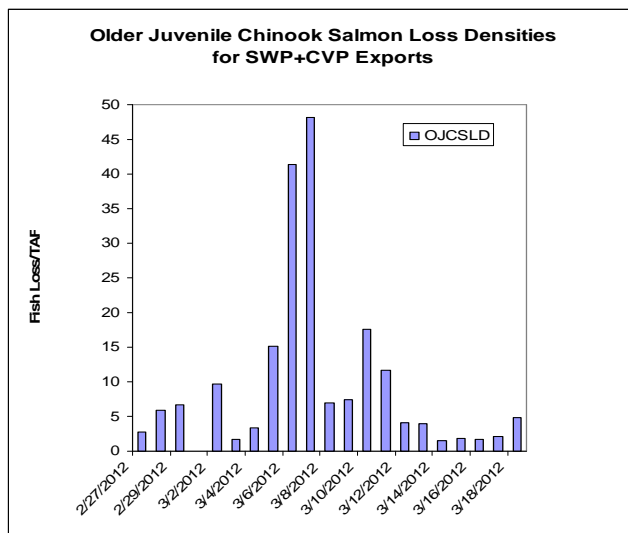


Table 1. Older juvenile Chinook salmon loss densities for the combined CVP and SWP export facilities from February 27 through March 18, 2012. Information from DFG daily salmon summary information. Prepared by Bob Fujimura on March 19, 2012.

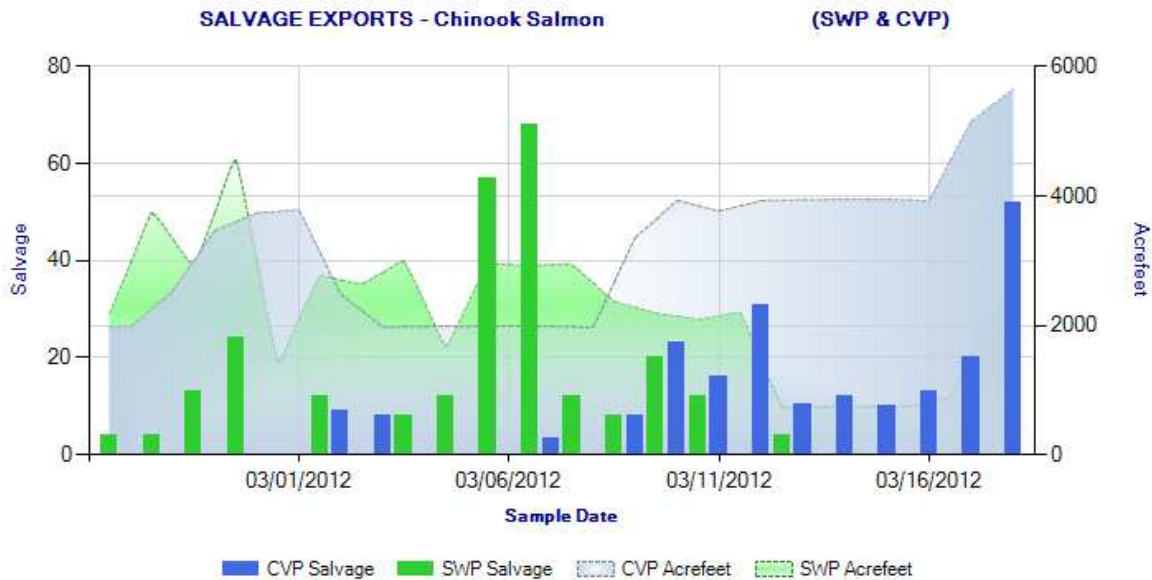


Table 2. Daily salvage of Chinook salmon (all races) and water exports from the state and federal fish salvage facilities during February 26 through March 18, 2012. Graph obtained from the DFG salvage monitoring web-page: <http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportCalendar.aspx>.

It was interesting to note that as exports change between facilities, the fish salvage numbers change. For example, as SWP decreases and CVP increases exports, salvage numbers increase at CVP and decrease at SWP. The question was asked whether the fish agencies could determine from this data from which river the salmon came (San Joaquin or Sacramento). Because of the small amount of data and very few tagged fish being salvaged, the fish agencies could not speculate about where the majority of the fish originated.

Coded Wire Tagged (CWT) Salvage and Loss (see table below): No CWT late-fall-run Chinook have been salvaged since last week. No CWT winter-run Chinook have been salvaged. The CWT numbers are still fairly low for hatchery fish. None of the surrogate groups exceeded the cumulative loss criterion of 0.5%.

Coleman Hatchery Late-Fall Run and Livingston Stone Winter-Run Chinook Loss at the Delta Fish Facilities, 2011/2012

Release Date	CWT Race	Release Site	Release Type	Confirmed Loss	Number Released	Total Entering Delta	% Loss ¹	First Concern Level	Second Concern Level	Date of First Loss	Date of Last Loss
12/16/2011	LF	Battle Creek	Production	117.70	394,700	n/a	0.030	n/a	n/a	1/11/2012	3/4/2012
12/23/2011	LF	Battle Creek	Spring	2.92	62,400	n/a	0.005	0.5%	1.0%	1/18/2012	1/31/2012
1/3/2012	LF	Battle Creek	Surrogate							1/19/2012	3/8/2012
1/13/2012	LF	Battle Creek	Production	557.20	448,600	n/a	0.124	n/a	n/a	1/31/2012	2/18/2012
1/20/2012	LF	Battle Creek	Spring	52.17	80,800	n/a	0.065	0.5%	1.0%	1/30/2012	3/6/2012
2/9/2012	LF	Battle Creek	Surrogate ²	97.16	20,000	n/a	0.486	n/a	n/a		
2/9/2012	W	Redding	Production	0.00	194,000	96,525	0.000	0.5%	1.0%	-	-

For Chinook lost 10/1/2011 through 3/18/2012

SWP coded-wire tags read 10/1/2011 through 3/18/2012

CVP coded-wire tags read 10/1/2011 through 3/18/2012

$$^1\text{LF \% Loss} = (\text{Confirmed Loss}/\text{Number Released}) \times 100; \text{W \% Loss} = (\text{Confirmed Loss}/\text{Total Entering Delta}) \times 100$$

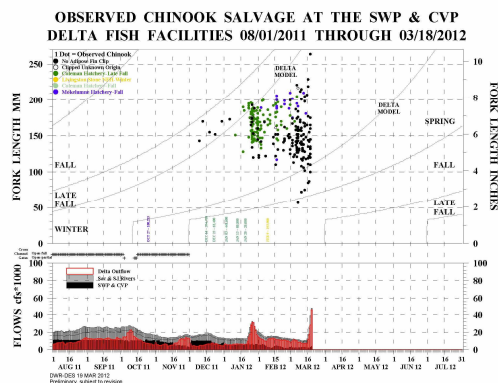
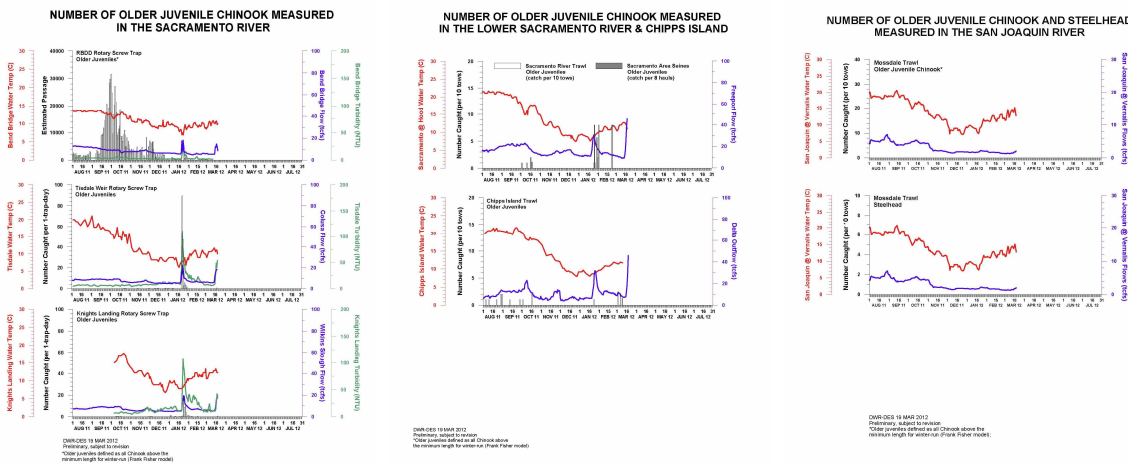
²Because of the equipment malfunction that stranded a large proportion of the release in the gravel, this 3rd surrogate release is tracked for monitoring and information only and not for compliance with Action IV.2.3.

DWR-DES Revised 3/19/2012

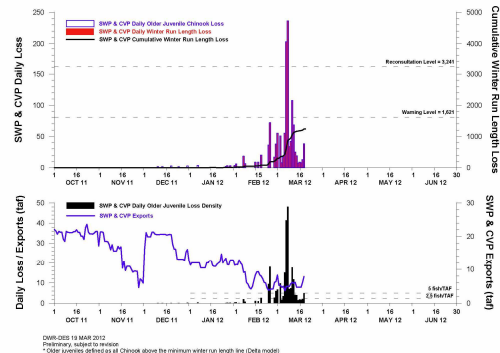
Preliminary, subject to revision

Loss-density criteria and OMR operations: NMFS sent out notification on Thursday, 3/15/12, to relax OMR effective 3/15/12 to no more negative than -3,500 cfs based on loss densities of <5.0 fish/TAF for the past 3 consecutive days. On Saturday, 3/17/12, NMFS sent out another notification that the combined loss densities for older juvenile Chinook had been <5.0 fish/TAF for 5 consecutive days and <2.5 fish/TAF for the last 3 consecutive days; therefore, the projects were allowed to operate to an OMR of no more negative than -5,000 cfs effective 3/17/12. On Monday, 3/19/12, NMFS put out a third notification that loss density had exceeded the first-stage trigger of 2.5 fish/TAF on Sunday, 3/18/12, at 4.89 fish/TAF; therefore, OMR flows were to be adjusted to no more negative than -3,500 cfs for the next 5 consecutive days effective 3/19/12.

Below are the weekly graphs prepared by DWR (Llaban) for the capture of older juvenile salmon in the Sacramento River and Chippis Island trawls from October 2011 through March 19, 2012.



NON-CLIPPED WINTER RUN & OLDER JUVENILE CHINOOK LOSS AT THE DELTA FISH FACILITIES 01 OCT 2011 THROUGH 18 MAR 2012



Operations (3/20/12)

SWP		CVP	
Exports (cfs)			
Clifton Court Forebay	1,500	Jones Pumping Plant	2,800
Reservoir Releases (cfs)			
Feather - Oroville	1,750 (do not foresee having to do add'l releases. Not encroached yet)	American - Nimbus	1,100
		Sacramento - Keswick	3,250 (now at minimum flow and will hold)
		Stanislaus - Goodwin	300
Reservoir Storage (in TAF, % of capacity)			
San Luis (SWP)	973	San Luis (CVP)	732 (76)
Oroville	2,799	Shasta	3,477
New Melones		Folsom	569
Delta Operations			
DCC	Closed as of 12/1/11	Sacramento River at Freeport (cfs)	42,901 (w/b down to 20k in 5 days)
Outflow Index (cfs)	46,000	San Joaquin River (cfs) at Vernalis	1,990 (increased from the storm by about 200 cfs)
Total Delta Inflow (cfs)	47,200	OMR (daily) (cfs)	¹ N/A (prelim est. ~2,000)
Water Temperature (°F)		OMR 5 day (cfs)	N/A (prelim est. ~-2,000)
X2 (km)	67 (3 miles west of Chipps)	OMR 14 day (cfs)	N/A (prelim est. ~2,000)
E/I (%)	9.1 (3-d avg)		

¹N/A means that the USGS data were not available; preliminary estimates based on Hutton equation to fill in the gaps.

Weather forecast: Drier than forecast. A storm is predicted for Thursday (3/22) and Friday (3/23) or over this coming weekend, but it will not produce as much precipitation as those over this past week; there is not a lot of precipitation projected for next week. The 14-day forecast: second 7 days are looking very wet from 3/28 to 4/5 in northern California (5–6 inches). Precipitation in the Stanislaus basin caused New Melones inflows to increase to between 2,000 and 4,000 cfs for about 4 days; previous inflows were on the order of 500 cfs. It was not known whether the recent precipitation would change storage and forecasted inflow enough to cause the New Melones water supply parameter (currently indicating a “below normal” year type) to change based on the upcoming April forecast.

Smelt Working Group (SWG) update: The SWG met on Monday, 3/19/12. Given the existing flow conditions and scheduled exports for the next week, the SWG recommended the current OMR flows will continue to protect delta and longfin smelt from entrainment. No advice is necessary.

Joint Stipulation OMR Technical Memo: DOSS members were encouraged to read the final technical memo, posted online at http://swr.nmfs.noaa.gov/ocap/2012_stipulation.htm. DOSS will provide advice for OMR management per the stipulation and technical memo process to

WOMT and NMFS starting next week for OMR management beginning 4/1/12 on OMR flows per the OMR Technical Memo.

A briefing rollout for all parties to the litigation is expected to be scheduled, possibly this week; Byrne will provide information to DOSS when confirmed. Any DOSS member with questions about the technical memo should call Byrne (NMFS) directly. The process to convene the Delta Conditions Team is not yet established; it was suggested that this issue be raised at the 5-agency meeting later this morning.

Byrne provided an overview of the OMR management process outlined in the technical memo. Particle Tracking Model (PTM) and tag detection data will be provided to DOSS as follows to implement the OMR management process described in the technical memo:

March 26, 2012: PTM data provided to DOSS for review at the March 27 DOSS meeting. DOSS will provide advice on March 27 for OMR management from April 1-7.

April 2, 2012: PTM data provided to DOSS for review at the April 3 DOSS meeting. DOSS will provide advice on April 3 for OMR management from April 8-14.

April 15, 2012², onward: Once supplemental acoustically tagged steelhead have been released, through May 31, 2012, tag-detection data from the receivers on Old and Middle rivers near Railroad Cut will be provided to NMFS on a daily basis.

Kevin Clark (DWR) and Israel will manage the data flow process for 2012 and welcome assistance in the analysis process.

DOSS advice to WOMT and NMFS: DOSS advises that the OMR flow of no more negative than -3,500 cfs per RPA action IV.2.3 continue to be implemented until March 23, 2012 (Friday), based on a new 5-day action beginning Monday, 3/19/12. The Chinook loss-density trigger of 2.5 fish/TAF was exceeded on 3/18/12 and NMFS was notified on 3/19/12. If the last 3 consecutive days of a loss density <2.5 fish/TAF before 3/23/12, the projects can relax the OMR criteria to no more negative than -5,000 cfs.

DOSS advice on OMR flows beginning on 3/26/12 will include consideration of both the PTM information per the NMFS OMR Technical Memo issued 3/16/12 and the loss densities at the fish collection facilities per RPA Action IV.2.3.

Next meeting: The next regular DOSS conference call will be on 3/27/12 at 9:00 a.m.

² Or within 2 days of the first release of the supplement acoustically tagged steelhead, whichever is later.